

Listing of the Claims:

Claims 1-6 (Canceled).

Claim 7 (Currently Amended): A device for monitoring an area of coverage around a working tool comprising:

at least ~~one~~ two ~~camera~~ cameras, which form a redundant camera system, onto which a beam divider projects images of the area of coverage;

at least ~~one~~ two computer ~~unit~~ units that is are coupled to the at least ~~one~~ two ~~camera~~ cameras and at least one switching output that is coupled to the working tool, said switching output having means, integrated into the at least two computer ~~unit~~ units, for storing and classifying a reference background, wherein the reference background is an image, recorded with ~~the~~ at least one of the at least two cameras ~~camera~~, of an object-free security zone within the area of coverage, wherein one respective computer unit being associated with one of the at least two cameras for evaluating the image information recorded therein and wherein both computer units are coupled so as to perform mutual checks and the two computer units have different software structures;

means for checking the reference background with respect to non-homogeneity, wherein the reference background is rejected as non-valid only if the non-homogeneity detected within a predetermined variance distance falls below a predetermined level and the reference background is otherwise classified as valid;

means, integrated into the at least ~~one~~ two computer ~~unit~~ units, for releasing an object detection system in dependence on the classification of the reference background; and

means, integrated into one of the computer ~~unit~~ units, for comparing actual images of the security zone, recorded with one of the ~~camera~~ cameras and a reference background classified as valid, wherein a binary control signal having switching states is generated in the one of the computer units, the switching states of which indicate whether the existing reference background is classified as valid or non-valid, the switching states of the binary control signal being output via an indicator output that is coupled to the one of the computer units, wherein a detection of a safety-critical object within the security zone occurs if the actual image differs significantly from the reference background and wherein the working tool is activated via the switching output that is triggered by the computer unit, but only if no safety-critical object is located within the security zone.

Claim 8 (Canceled).

Claim 9(Currently Amended): The device according to claim 8 7, wherein the object detection system is released or blocked in dependence on the switching states of the binary control signal.

Claims 10-12 (Canceled).

Claim 13 (Currently Amended): The device according to claim 12 7, wherein the switching output is actuated by both computer units.

Claim 14 (Currently Amended): The device according to claim 12 7, wherein the indicator output is activated by both computer units.

Claim 15 (Currently Amended): The device according to claim 11 7, wherein the two cameras of the camera system are identical or at least operate in the same way.

Claim 16 (Currently Amended): The device according to claim ~~12~~ 23, wherein the two computer units have identical hardware structures.

Claim 17 (Canceled).

Claim 18 (Currently Amended): The device according to claim ~~12~~ 7, wherein the reference background is stored in each computer unit and is checked with respect to its non-homogeneity.

Claim 19 (Original): The device according to claim 18, wherein the object detection system is released via the binary control signal, but only if the reference background in both computer units is classified as valid.

Claims 20-22 (Canceled).

Claim 23 (Currently Amended): ~~The~~ A device ~~according to claim 22, for monitoring an area of coverage around a working tool comprising:~~

at least two cameras, which form a redundant camera system, onto which a beam divider projects images of the area of coverage;

at least two computer units that are coupled to the at least two cameras and at least one switching output that is coupled to the working tool, said switching output having means, integrated into the at least two computer units, for storing and classifying a

reference background, wherein the reference background is an image, recorded with at least one of the at least two cameras, of an object-free security zone within the area of coverage, wherein one respective computer unit being associated with one of the at least two cameras for evaluating the image information recorded therein and wherein both computer units are coupled so as to perform mutual checks;

means for checking the reference background with respect to non-homogeneity, wherein the reference background is rejected as non-valid only if the non-homogeneity detected within a predetermined variance distance falls below a predetermined level and the reference background is otherwise classified as valid;

means, integrated into the at least two computer units, for releasing an object detection system in dependence on the classification of the reference background wherein for the object detection system a comparison is made between the images actually recorded with the two cameras and the reference background is stored in the two computer units, wherein image characteristics are obtained for the object detection system in the two computer units from the image information that is input with the aid of the two associated cameras, and wherein the image characteristics determined in the two computer units are compared via the connection between the two computer units; and

means, integrated into one of the computer units, for comparing actual images of the security zone, recorded with one of the cameras and a reference background classified as valid, wherein a binary control signal having switching states is generated in the one of the computer units, the switching states of which indicate whether the existing reference background is classified as valid or non-valid, the switching states of the binary control signal being output via an indicator output that is coupled to the one of the computer

units, wherein a detection of a safety-critical object within the security zone occurs if the actual image differs significantly from the reference background and wherein the working tool is activated via the switching output that is triggered by the computer unit, but only if no safety-critical object is located within the security zone and wherein the working tool is shut down via the switching output if the image characteristics detected in the individual computer units do not coincide.

Claim 24 (Currently Amended): The A device according to claim 22, for monitoring an area of coverage around a working tool comprising:

at least two cameras, which form a redundant camera system, onto which a beam divider projects images of the area of coverage;

at least two computer units that are coupled to the at least two cameras and at least one switching output that is coupled to the working tool, said switching output having means, integrated into the at least two computer units, for storing and classifying a reference background, wherein the reference background is an image, recorded with at least one of the at least two cameras, of an object-free security zone within the area of coverage, wherein one respective computer unit being associated with one of the at least two cameras for evaluating the image information recorded therein and wherein both computer units are coupled so as to perform mutual checks;

means for checking the reference background with respect to non-homogeneity, wherein the reference background is rejected as non-valid only if the non-homogeneity detected within a predetermined variance distance falls below a predetermined level and the reference background is otherwise classified as valid;

means, integrated into the at least two computer units, for releasing an object detection system in dependence on the classification of the reference background wherein for the object detection system a comparison is made between the images actually recorded with the two cameras and the reference background is stored in the two computer units, wherein image characteristics are obtained for the object detection system in the two computer units from the image information that is input with the aid of the two associated cameras, and wherein the image characteristics determined in the two computer units are compared via the connection between the two computer units; and

means, integrated into one of the computer units, for comparing actual images of the security zone, recorded with one of the cameras and a reference background classified as valid, wherein a binary control signal having switching states is generated in the one of the computer units, the switching states of which indicate whether the existing reference background is classified as valid or non-valid, the switching states of the binary control signal being output via an indicator output that is coupled to the one of the computer units, wherein a detection of a safety-critical object within the security zone occurs if the actual image differs significantly from the reference background and wherein the working tool is activated via the switching output that is triggered by the computer unit, but only if no safety-critical object is located within the security zone and wherein a working tool is shut down via the switching output if image characteristics assigned to a safety-critical object located in the security zone are detected jointly in both computer units.

Claim 25 (Original): The device according to claim 7, wherein within the area of coverage that is covered by the camera system, at least one warning zone is defined in

addition to the security zone, wherein a warning indicator is activated via a warning output if a safety-critical object is located in the warning zone.

Claim 26 (Original): The device according to claim 25, wherein the warning zone is adjacent to the security zone.

Claim 27 (Original): The device according to claim 25, wherein the reference background comprises the security zone and the warning zone.

Claim 28 (Original): The device according to claim 26, wherein the movement direction of a safety-critical object within the warning zone can be detected.

Claim 29 (Original): The device according to claim 28, wherein the warning indicator is activated only if a safety-critical object is located within the warning zone and moves toward the security zone.

Claim 30 (Original): The device according to claim 25, wherein several security zones and warning zones are respectively provided, wherein one switching output is assigned respectively to a respective security zone and a warning output is assigned to each respective warning zone.

Claim 31 (Original): The device according to claim 30, wherein the working tool is shut down if a safety-critical object is located in at least one security zone.

Claim 32 (Original): The device according to claim 7, wherein the working tool is one of a working robot and an assembly robot.

Claim 33 (Original): The device according to claim 7, wherein the working tool is a printing machine.

Claim 34 (Original): The device according to claim 7, wherein the working tool is a feeding device.

Claim 35 (Original): The device according to claim 7, wherein the working tool is a press.

Claim 36 (Original): The device according to claim 7, wherein the working tool is a folding press.

Claim 37 (Original): The device according to claim 7, wherein the safety-critical objects are persons.

Claim 38 (Original): The device according to claim 7, wherein the safety-critical objects are arms of a person.